

Work Order ID 133714

Tuesday, June 16, 2015 10:52:50 AM

133714

Page 1

Item ID: PB67-43001-113 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Square Tube
 Start Date: 6/16/2015 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 6/16/2015 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: MLS Date: JUN 17 2015 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
B67-43001	C								
100		0.00							
100	BAND SAW								
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	Cut blank as per dwg PB67-43001								J.C.L. 15/07/13
110		0.00							
110	CONVENTIONAL MILLING MACHINE								
Mill Conv	Memo	0.00							
Conventional Milling Machine	1- Mill as per Dwg B67-43001 DO NOT MILL 1.75" RAD								J.C.L. 15/07/13
	2- Deburr								
120		0.00							
120	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.00							
Quality Control									J.C.L. 15/07/13

NCR →

DQA:

Date: 15/07/28



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed

Date: 15/07/27

Work Order update only

Work Order: <u>133714</u> Part No. <u>PB67-43001-113</u> NCR No. <u>15-5228</u>		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☒ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date: 15/07/14		Step #: 130		QTY Effective: ②		MRB (QSI042) Approval	
Description Work Order Deviation				Disposition		8/15/07/14	
Ø 1.75 Location not conforming to drawing Slot is located on opposite side Re- operator error / folio could be more clear not verifying drawing.				scrap destroy no replace Replace 2* MB061T6TS1.00X.125 w H N/A PD 15-07-14 View has been updated in folio in isometric to clarify setup <u>DF8 15/07/14</u>		Completed By <u>15/07/14</u> Lead hand / Supervisor Approval Verification <u>15/07/14</u> QC / QA Coordinator Approval DAS 9 9-89 15-07-14	
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☒ Doc/Data ☒ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☒ Bending ☐ Set-up ☐ Folio/Program ☒ Outside Dimensions ☐ Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance ☐ Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing ☐ Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved ☐ Crushing ☐ Countersink ☐ Off-set ☐ Drawing ☐ Heat Treat ☐ Cut Too Short ☐ Mis-labeled ☐ Finish ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread ☐ Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence ☐			
OTHER :							

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Page 2

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Required Date: 6/16/2015 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	HAAS CNC VERTICAL MACHINING #1	0.00				2	2		<i>[Signature]</i> 15/07/14
130									
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1- Mill as per Folio FA767 Rev: <u>AA</u> & Dwg B67-43001 Rev: <u>B</u>								
	2-Deburr per dwg B67-43001								
140	QC2- Inspect parts off machine FAI/FAIB	0.00				2	2		<i>[Signature]</i> 15/07/14
140									
QC	Memo	0.00							
Quality Control									
150	QC8- Inspect parts - second check	0.00				2	0		DAS 08 9-89
150									
QC	Memo	0.00							
Quality Control									

[Signature] 15/07/15

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (Q51042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By 	
								Lead hand / Supervisor Approval Verification 	
								QC / QA Coordinator Approval 	

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Misabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : 					
Misidentified ☐	☐ Past Due						

Work Order ID 133714

Tuesday, June 16, 2015 10:52:50 AM

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Page 3

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 Required Date: 6/16/2015 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: <u>U212</u>	0.00							
160									
Packaging	Memo	0.00		DAS		②	J.A	JUL 20 2015	
Packaging				6					
				9-89					
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.00							
Quality Control									

May 7/20/15
 [Signature] 7/20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Picklist Print

Tuesday, June 16, 2015 10:52:54 AM

Page 1

Work Order ID: 133714

133714

Parent Item: PB67-43001-113

PB67-43001-113

Parent Item Name: Square Tube

Start Date: 6/16/2015

Required Date: 6/16/2015

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A 08-07-17 new issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6TS1.000W.12 5		Purchased	No			100	f	290.5830	1.85	8			

M6061T6TS1 000W 125

6061T6 SQ TUBE 1.00 x 1.00 x .125w

Location

Loc Qty

Loc Code

MAT028

290.583

m128034

210.5

m128248

80.083

m132577

7.45311 S.C. 15/07/13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD		Work Order:	133714
Description: Square Tube		Part Number:	B67-43001-113
Inspection Dwg: B67-43001 Pg33		Rev: <i>CP</i>	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

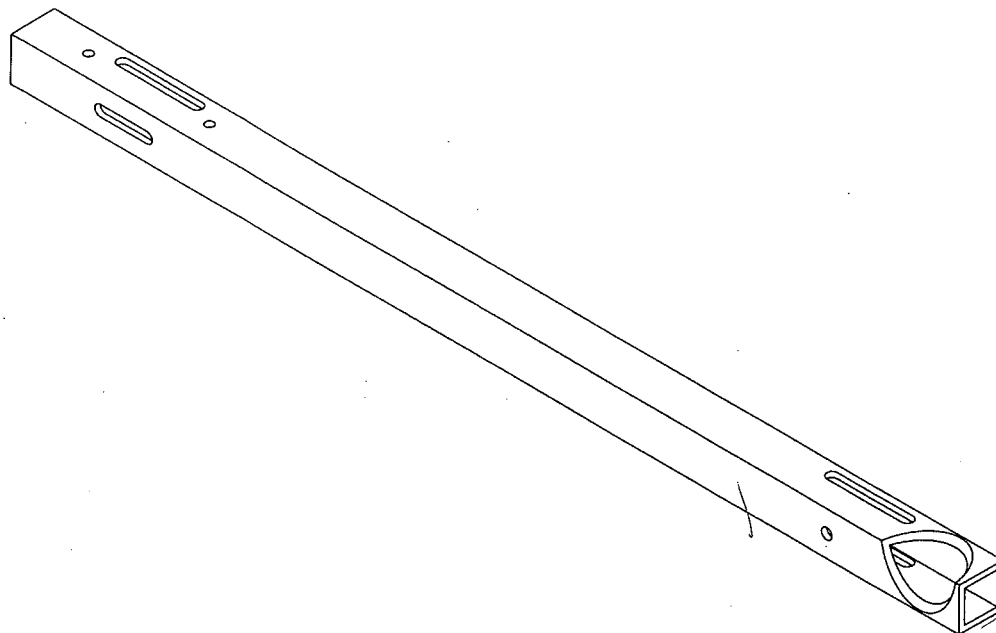
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.09	+/-0.030					
1.79	+/-0.030					
22.28	+/-0.030	22.200	✓		Caliper	A1000
1.30	+/-0.030	1.298	✓		"	JCL-08
2.84	+/-0.030	2.840	✓		"	
1.88 Ø0.194	+0.005 -0.001	0.194	✓		"	
1.88	+/-0.030	1.875	✓		"	
1.750	+/-0.010	1.752	✓		"	
0.250	+/-0.010	0.251	✓		"	
1.750	+/-0.010	1.750	✓		"	
1.930	+/-0.030	1.937	✓		"	
0.500	+/-0.010	0.501	✓		"	
0.725	+/-0.010	0.725	✓		"	
0.500	+/-0.010	0.500	✓		"	
2.08	+/-0.030	2.078	✓		"	
1.100	+/-0.010	1.100	✓		"	
0.250	+/-0.010	0.253	✓		"	
Ø 0.250	+0.006 -0.001	0.250	✓		"	
3.07	+/-0.030	3.070	✓		"	
0.09	± 0.030	0.094	✓		HIP-04	vern
1.79	± 0.030	1.794	✓		...	...

Measured by:	J.C.L. / <i>hpa</i>
Date:	15/07/13

Audited by:	<i>hpa</i>	DAS
Date:	15/07/15	08 9-89

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	08.10.17	New Issue	KJ/DD <i>hpa</i>	<i>hpa</i>



B67-43001-113 SQUARE TUBE

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

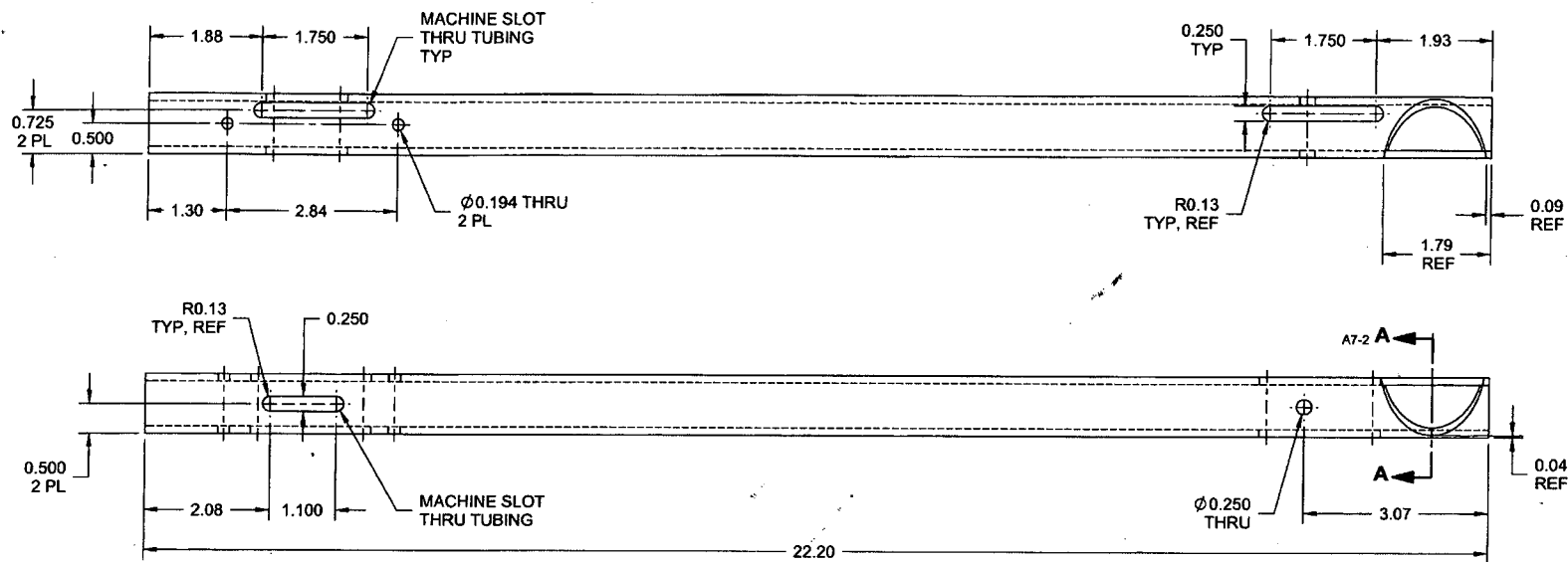
NO. 133714 MJS
1506-77

RELEASED
2009-08-24

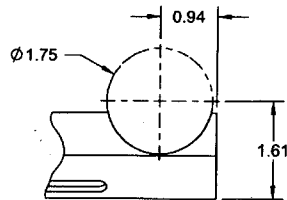
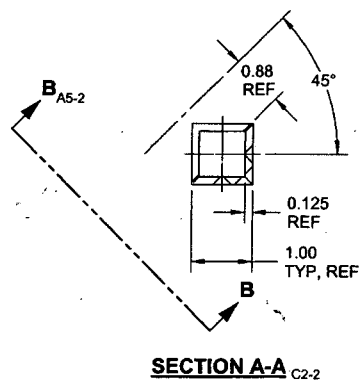
NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) SQUARE TUBING
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR
PER AMS-QQ-A-200/8 (OR AMS 4160)
REF. DART SPEC. M6061T6TS1.000W0.125
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.89 lbs

C	REDRAWN PREMIER AVIATION DRAWING IAW DART QSI 018 AND QSI 043. FOR PREVIOUS REVISIONS, REFER TO PAGE 33 OF PREMIER AVIATION DRAWING No. B67-43001. REASON: SEE PAR#09-011.		MB	09.02.18
REV.	DESCRIPTION		BY	DATE
DESIGN	FW		DART AEROSPACE LTD	
DRAWN			HAWKESBURY, ONTARIO, CANADA	
CHECKED	MJS		DRAWING NO. B67-43001-113 REV. C	
MFG. APPR.	MJS		SHEET 1 OF 2	
APPROVED	MJS		TITLE SCALE	
DE APPR.	N/A		SQUARE TUBE NTS	
DATE	09.02.18		COPYRIGHT © 1995 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



B67-43001-113 SQUARE TUBE



VIEW B-B B8-2
ROTATED 45° CCW

RELEASED
2009-09-24
JWD

DESIGN	R/W	DART AEROSPACE LTD	
DRAWN	B	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MS	DRAWING NO.	REV. C
MFG. APPR.	MS	B67-43001-113	SHEET 2 OF 2
APPROVED	MS	TITLE	SCALE
DE APPR.	N/A	SQUARE TUBE	NTS
DATE	09.02.18	COPYRIGHT © 1995 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			